

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A device for processing packets of flows on a network link and ensuring a quality of service without explicitly distinguishing between real-time flows and data flows, the device comprising:

scheduling means for scheduling packets in a queue ~~as a function of a priority based on analyzing the incoming bit rate of the flows relative to a fair bit rate and~~ in accordance with a fair queuing with priority algorithm;

wherein a priority is assigned to the packets of the flows for which a bit rate is below a dynamic threshold, the dynamic threshold being determined by traffic conditions.

2. (Currently Amended) ~~[[A]]~~ The device according to claim 1, further comprising admission control means for controlling admission of said packets into the device in accordance with admission criteria.

3. (Currently Amended) ~~[[A]]~~ The device according to claim 2, wherein the scheduling means send the admission control means admissibility condition data.

4. (Currently Amended) ~~[[A]]~~ The device according to claim 2, wherein the admission control means comprise means for interrogating a list of protected flows for each incoming packet.

5. (Currently Amended) ~~[[A]]~~ The device according to claim 4, further comprising means for erasing flows for which the time elapsed since the last packet was received exceeds a threshold value from the list of protected flows.

6. (Currently Amended) ~~[[A]]~~ The device according to claim 4, wherein the admission control means comprise means for determining if the admission criteria are satisfied if a packet belongs to a flow that is not in the list of protected flows.

7. (Currently Amended) ~~[[A]]~~ The device according to claim 4, comprising means for entering a new flow in the list if the admission criteria are satisfied.

8. (Currently Amended) ~~[[A]]~~ The device according to claim 2, wherein the admissibility condition data includes:

~~[[-]]~~ a fair bit rate value that represents the bit rate achieved by a data flow that always has packets to send, and

~~[[-]]~~ a priority load value, which is sum of the lengths of priority packets transmitted in a certain time period divided by the duration of that time period.

9. (Currently Amended) ~~[[A]]~~ The device according to claim 1, wherein the scheduling means schedule as priority packets any packets of flows in the queue that are not in a list of active flows and as non-priority packets any packets of flows that are already in said list.

10. (Currently Amended) [[A]] The device according to claim 1, wherein the scheduling means schedule the packets in a PIFO queue.
11. (Currently Amended) [[A]] The device according to claim 10, wherein a pointer P identifies the last of the priority packets at the head of the queue.
12. (Currently Amended) [[A]] The device according to claim 11, further ~~adapted~~ configured to employ a list of active flows containing the identifiers of the active flows and wherein a time stamp is used for scheduling packets.
13. (Currently Amended) [[A]] The device according to claim 11, further comprising means for writing flows in and erasing flows from the list of active flows as a function of the arrival and departure of packets of the flows.
14. (Currently Amended) [[A]] The device according to claim 12, further comprising ~~congestion-measuring~~ means for measuring congestion.
15. (Currently Amended) [[A]] The device according to claim 14, wherein congestion measurements are carried out as a function of a local time, a number of priority packet bytes transmitted during a current measurement period, and a number of bytes that a dummy flow could send in said current measuring period.
16. (Currently Amended) [[A]] The device according to claim 10, comprising means

for determining whether the PIFO queue is empty ~~or not~~.

17. (Currently Amended) [[A]] The device according to claim 1, further comprising discrimination means for distinguishing classes of service at admission control level.

18. (Currently Amended) [[A]] The device according to claim 1, wherein the flows are identified by a hashing function applied to address attributes.

19. (Currently Amended) A method of treating packets of flows on a network link and ensuring a quality of service without explicitly distinguishing between real-time flows and data flows, the method comprising;

a scheduling step for scheduling packets in a queue as a function of a priority based on analyzing the incoming bit rate of the flows relative to a fair bit rate and in accordance with a fair queuing with priority algorithm;

wherein a priority is assigned to the packets of the flows for which a bit rate is below a dynamic threshold, the dynamic threshold being determined by traffic conditions.

20. (Currently Amended) [[A]] The method according to claim 19, further comprising an admission control step for controlling the admission of said packets into a device for processing said packets in accordance with admission criteria.

21. (Currently Amended) [[A]] The method according to claim 20, further comprising a step of sending admissibility conditions to ~~the~~ a means for controlling admission of

the data.

22. (Currently Amended) [[A]] The method according to claim 21, wherein the admission control step includes interrogating a list of protected flows for each incoming packet.

23. (Currently Amended) [[A]] The method according to claim 22, wherein flows for which the time elapsed since the last packet was received exceeds a threshold value are erased from the list of protected flows.

24. (Currently Amended) [[A]] The method according to claim 22, comprising a step for determining if the admission criteria are satisfied if a packet belongs to a flow that is not in the list of protected flows.

25. (Currently Amended) [[A]] The method according to claim 22, comprising a step of entering a new flow in the list if the admission criteria are satisfied.

26. (Currently Amended) [[A]] The method according to claim 21, wherein the admissibility conditions data include:

[[-]] a fair bit rate value that represents the bit rate achieved by a data flow that always has packets to send, and

[[-]] a priority load value, which is sum of the lengths of priority packets transmitted in a certain time period divided by the duration of that time period.

27. (Currently Amended) [[A]] The method according to claim 20, wherein the scheduling step schedules as priority packets any packets in the queue that are not in a list of active flows and as non-priority packets any packets of flows that are already in that list.

28. (Currently Amended) [[A]] The method according to claim 20, wherein the scheduling means schedule packets in a FIFO queue.

29. (Currently Amended) [[A]] The method according to claim 28, wherein a pointer P identifies the last of the priority packets at the head of the queue.

30. (Currently Amended) [[A]] The method according to claim 29, further employing a list of active flows containing the identifiers of the flows and wherein a time stamp is used for scheduling packets.

31. (Currently Amended) [[A]] The method according to claim 30, further comprising steps of writing flows in and erasing flows from the list of active flows as a function of the arrival and departure of packets of the flows.

32. (Currently Amended) [[A]] The method according to claim 30, further comprising congestion measurement step for measuring congestion.

33. (Currently Amended) [[A]] The method according to claim 32, wherein congestion measurements are carried out as a function of a local time, a number of priority

packet bytes transmitted during a current measurement period, and a number of bytes that a dummy flow could send in said current measurement period.

34. (Currently Amended) [[A]] The method according to claim 28, including a step for determining whether the PIFO queue is empty ~~or not~~.

35. (Currently Amended) [[A]] The method according to claim 19, wherein a signal relating to the loss of packets is sent to a user.

36. (Currently Amended) [[A]] The method according to claim 19, further comprising discriminating classes of service at admission control level.

37. (Currently Amended) [[A]] The method according to claim 19, wherein load sharing of flows over a plurality of links is effected with the aid of a function of address attributes including ~~the~~ a free portion of ~~the~~ a flow identifier.

38. (New) A device for processing packets of flows on a network link, the device comprising:

scheduling means for scheduling packets in a queue as a function of a priority based on analyzing the incoming bit rate of the flows relative to a fair bit rate and in accordance with a fair queuing with priority algorithm; and

admission control means for controlling admission of said packets into the device in accordance with admission criteria,

wherein the admissibility condition data includes:

a fair bit rate value that represents the bit rate achieved by a data flow that always has packets to send, and

a priority load value, which is sum of the lengths of priority packets transmitted in a certain time period divided by the duration of that time period.

39. (New) A method of treating packets of flows on a network link, the method comprising:

a scheduling step for scheduling packets in a queue as a function of a priority based on analyzing the incoming bit rate of the flows relative to a fair bit rate and in accordance with a fair queuing with priority algorithm;

an admission control step for controlling the admission of said packets into a device for processing said packets in accordance with admission criteria; and

a step of sending admissibility conditions to a means for controlling admission of the data;

wherein the admissibility conditions data include:

a fair bit rate value that represents the bit rate achieved by a data flow that always has packets to send, and

a priority load value, which is sum of the lengths of priority packets transmitted in a certain time period divided by the duration of that time period.